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~~We Claim:~~

1. A spring filter element having a plurality of coils along its length, the coils bearing projections for engaging adjacent coils to define a minimum filter gap between the coils, wherein the coils are pre-tensioned with the degree of pre-tension varied progressively along the length of the filter such that any part of the filter, in one vertical orientation of the element, supports a dependent remainder of the filter to maintain a closed coil state during normal use and to allow substantially equal opening of the filter gaps between the coils when the element is extended.
2. A filter element as claimed in Claim 1 wherein the pre-tension is varied continuously.
3. A filter element as claimed in Claim 1 wherein the pre-tension is varied in a stepped fashion.
4. A filter element as claimed in Claim 1 wherein all the coils are active.
5. A spring filter element in which the coils forming the element can be extended by a defined amount, a natural state of the element is in a form of a close coiled spring with the individual coils so formed to provide an initial tension force between coils wherein an initial tension force between adjacent coils varies from one end of the coil stack to its other end, the variable coil to coil tension being such that with the coil stack located in a

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fluid in one vertical position and extended by the said defined amount the tension force produced by any individual active coil in the stack is just sufficient to support an effective or net weight of remaining coils in the stack which are below the said individual coil and produce a deflection which is equal to the difference between the close coiled length of the stack and the said defined extended length of the stack divided by a number of active coils in the stack.

10 *SJF* 6. A spring filter element as claimed in claim 1 or claim 5, further including a substantial closure extending across the filter element at/or adjacent one end thereof responsive to backwash flow conditions for extending the filter element.

15 7. A spring filter element as claimed in claim 6, wherein the filter is within a housing and the closure is constituted as a piston.

8. A spring filter element as claimed in claim 7, further including a control for effecting pressure reduction on a 20 side of the piston remote from the filter element.

9. A filter assembly including a filter element as claimed in Claim 1 or Claim 5, wherein the filter element provides at least sufficient tension to maintain minimum filter gaps during filtering flow.

25 10. A filter assembly as claimed in Claim 9 wherein the filter element is cageless.

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Sub A³ 11.. A filter assembly including a cageless filter element
as claimed in Claim 1 or Claim 5.

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